

MP0062.I5

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appeal No. \_\_\_\_\_

Application No.: 10/692,644

Filing Date: October 24, 2003

Appellant: Sehat Sutardja

Conf. No.:

Group Art Unit: 2128

Examiner: Michael D. Masinick

Title: APPARATUS, METHOD, AND COMPUTER PROGRAM  
FOR SPRINKLER CONTROL

Attorney Docket: MP0062.I5

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**APPEAL BRIEF**

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August 18, 2009

Sir:

This brief on appeal is submitted pursuant to the Notice of Appeal filed in the U.S. Patent and Trademark Office on June 25, 2009 and in response to the Final Office Action mailed March 25, 2009, rejecting claims 1-28, 189, and 190.

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**I. REAL PARTY IN INTEREST**

The real party in interest is Marvell International Ltd. by virtue of assignments recorded in the Patent and Trademark Office at Reel 014638, Frame 0477, and Reel 014771, Frame 0184.

**II. RELATED APPEALS AND INTERFERENCES**

The Assignee, the Appellant, and the undersigned do not know of any other appeals, interferences, or judicial proceedings that would directly affect or that would be directly affected by, or have a bearing on, the Board's decision in this Appeal.

**III. STATUS OF THE CLAIMS**

Claims 1-28, 189, and 190 are pending and stand rejected.

Claims 29-188 and 191-196 are cancelled.

Appellant appeals the rejection of claims 1-28, 189, and 190.

**IV. STATUS OF THE AMENDMENTS**

The claims have not been amended subsequent to the Final Office Action, and there are no un-entered amendments.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

Independent claim 1 recites a sprinkler system (e.g. sprinkler system 2500, FIG. 25; see Page 25, Lines 28-29) that includes a plurality of sprinklers (e.g. sprinklers 2502, FIG. 25; see Page 25, Lines 29-31) each including a sprinkler valve (e.g. 2506, FIG. 25; See Page 25, Lines 29-31) adapted to regulate an amount of fluid delivered by the sprinkler in response to a control signal. A master unit (e.g. network appliance 2512, FIG. 25; see Page 25, Line 31 through Page 26, Line 1) is adapted to transmit digital data. Each one of a plurality of sprinkler controllers (e.g. sprinkler controller 2510, FIG. 25; see Page 25, Line 31 through Page 26, Line 1) is associated with a respective one of the plurality of sprinklers and includes a receiver (e.g. receivers 2638 and 2648, FIG. 26; see Page 27, Lines 28-31) adapted to receive a signal representing the digital data, a media access controller (e.g. MAC 2622, FIG. 26; see Page 27, Lines 11-16) adapted to obtain the digital data from the signal, frame the digital data, and filter the digital data to select frames of the digital data that are addressed to the one of the plurality of sprinkler controllers (see Page 28, Lines 9-13), and a processor adapted to produce the control signal based on the digital data obtained by the media access controller (e.g. MPU 2640, FIG. 26; see Page 28, Lines 11-16 and Page 29, Lines 24-25). An output circuit (e.g. output circuit 2616, FIG. 26; see Page 29, Lines 27-30) is adapted to provide the control signal to the sprinklers.

Independent claim 15 recites a sprinkler system (e.g. sprinkler system 2500, FIG. 25; see Page 25, Lines 28-29) that includes a plurality of sprinkler means (e.g. sprinklers 2502, FIG. 25; see Page 25, Lines 29-31) each comprising a sprinkler valve means (e.g. 2506, FIG. 25; See Page 25, Lines 29-31) for

regulating an amount of fluid delivered by the sprinkler means in response to a control signal, master unit means (e.g. network appliance 2512, FIG. 25; see Page 25, Line 31 through Page 26, Line 1) for transmitting digital data, and a plurality of sprinkler controller means (e.g. sprinkler controller 2510, FIG. 25; see Page 25, Line 31 through Page 26, Line 1), each one of the plurality of sprinkler controller means associated with a respective one of the plurality of sprinkler means, and output means (e.g. output circuit 2616, FIG. 26; see Page 29, Lines 27-30) for providing the control signal to the sprinklers. Each of the plurality of sprinkler controller means includes receiver means (e.g. receivers 2638 and 2648, FIG. 26; see Page 27, Lines 28-31) for receiving a signal representing the digital data, media access controller means (e.g. MAC 2622, FIG. 26; see Page 27, Lines 11-16) for obtaining the digital data from the signal, for framing the digital data, and for filtering the digital data to select frames of the digital data that are addressed to the one of the plurality of sprinkler controllers (see Page 28, Lines 9-13), and processor means (e.g. MPU 2640, FIG. 26; see Page 28, Lines 11-16 and Page 29, Lines 24-25) for producing the control signal based on the digital data obtained by the media access controller.



**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Appellant seeks the Board's review of:

- (a) whether claims 1, 9-11, 15, 23-25, and 189-190 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,760,547 ("Duxbury") in view of "Atmel Announces 802.11b Media Access Controller (MAC) with Integrated Baseband for Wireless Applications" (hereinafter "Atmel").
- (b) whether claims 2-8, 12-14, 16-22, and 26-28 are unpatentable under 35 U.S.C. § 103(a) over Duxbury in view of Atmel and further in view of U.S. Patent No. 5,038,268 ("Krause").

**VII. ARGUMENTS****A. Rejection under 35 U.S.C. § 103(a) over U.S. Patent No. 4,760,547("Duxbury") in view of "Atmel Announces 802.11b Media Access Controller (MAC) with Integrated Baseband for Wireless Applications" (hereinafter "Atmel")****1. Claims 1, 9-11, 23-25, and 189-190**

Claim 1 recites that each of a plurality of sprinkler controllers associated with one of a plurality of sprinklers includes a media access controller adapted to obtain the digital data from the signal, frame the digital data, and filter the digital data to select frames of the digital data that are addressed to the one of the plurality of sprinkler controllers.

The Examiner acknowledges that Duxbury fails to disclose a media access controller, and instead relies on Atmel to disclose that each of the plurality of sprinkler controllers includes a media access controller. Appellant respectfully submits that Atmel fails to make up for the deficiencies of Duxbury.

For example, Duxbury discloses a controller 2 that receives remotely transmitted control signals via a receiver. A remote transmitter 24 transmits the signals. The remote transmitter 24 transmits the control signals directly to a specific station that includes the controller 2. For example, the transmitter 24 includes keys for selecting a specific controller 2 to communicate with (see Column 4, Lines 1-16). Any control signals are then sent to the selected controller 2. In other words, the controller 2 does not receive digital data, frame digital data, and filter the digital data to select frames of the digital data that are addressed to the controller 2. Instead, any digital signal that the controller 2 receives is inherently intended for the controller 2 because of the selection at the remote transmitter 24.

Accordingly, merely replacing the controller 2 with the MAC of Atmel would not result in a controller that filters received data to select frames addressed to the MAC. The system of Duxbury with or without the MAC of Atmel still includes a remote transmitter that specifically selects a controller 2 to communicate with. Accordingly, the controller 2 would have no reason to filter the data to select specific frames. In view of the foregoing, Appellant respectfully submits that the combination of Duxbury and Atmel still fails to disclose that each one of the sprinkler controllers includes a MAC that filters digital data to select frames addressed to it.

Further, Appellant respectfully submits that there is no motivation to combine Duxbury with Atmel. For example, the Examiner alleges that "it would have been obvious to one of ordinary skill in the art...to replace the RF tones of the Duxbury patent with wireless devices as described in the Atmel article because it "has allowed our customers a path to higher performance, lower cost, and lower power consumption...and allow a very small footprint."

This brief explanation falls far short of the type of **explicit analysis** that is required by the Supreme Court in KSR Int'l v. Teleflex Inc., 127 S.Ct. 1727 (2007). Absent such an express teaching or suggestion in the references, the explicit analysis and reasoning must be supplied by the Examiner. *Id.* In other words, the Examiner is required to provide explicit reasoning as to why one skilled in the art would be motivated to replace the controllers of Duxbury, which receive point to point signals, with the MACs of Atmel.

Appellant respectfully notes that Atmel merely discloses a media access controller for wireless LANs that is described as an improvement over existing media access and/or baseband controllers in LANs. For example, the portion of Atmel that the

Examiner relies on specifies that "this is very important when doing designs like compact flash cards, mini-PCI cards and especially WLAN modules," and further identifies applications such as printers, PDA's, and calculator. Atmel is absent of any teaching or suggestion of replacing point to point RF controllers (i.e. non WLAN controllers) in a sprinkler system with a plurality of media access controllers.

Further, Appellant respectfully notes that the stated improvements of "lower cost, lower power consumption, and...a very small footprint" are simply broad generalizations and would not be applicable as a replacement to the system of Duxbury. Duxbury discloses a controller that receives only RF signals intended for that particular controller. It is unclear how replacing this controller with a wireless media access controller, receiver, and processor in each sprinkler would result in lower cost and power consumption and improve the footprint. Here again, Atmel's stated improvements appear to be relative to other media access controllers, and the Examiner fails to provide support for a relationship between these stated improvements and the controller 2 of Duxbury.

The Examiner further alleges that filtering data and selecting specific frames "is the purpose of an operating procedure in any MAC addressing system and would clearly be inherent if not obvious." (See Page 3 of the Office Action mailed March 25, 2009, hereinafter "the Office Action"). Appellant respectfully disagrees.

The Examiner has failed to support an inherency argument. For example, the fact that a certain characteristic **may occur or be present** in the prior art reference is not sufficient to establish inherency of that characteristic. *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (emphasis added). The Federal Circuit has clearly stated that:

To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is **necessarily** present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities.'

*In re Robertson*, 49 USPQ2d 1949, 1950-1951 (Fed. Cir. 1999) (emphasis added).

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic **necessarily** flows from the teachings of the applied prior art." *Ex Parte Levy*, 17 USPQ2d 1461 (Bd. Pat. App. & Inter. 1990) (emphasis original). Therefore, a MAC that filters data to select the frames in the device of Duxbury must necessarily flow from the teachings of Duxbury and Atmel. Appellant respectfully asserts that this is not the case here.

As described above, replacing the controller 2 of Duxbury with the MAC of Atmel would not result in a controller that filters received data to select frames addressed to the MAC, because Duxbury includes a remote transmitter that specifically selects a controller 2 to communicate with. Accordingly, while the Examiner may have provided a secondary reference that discloses a MAC, this does not necessarily mean that the alleged MAC in the system of Duxbury is **necessarily** the same.

Therefore, Appellant respectfully asserts that the Examiner has failed to properly support an inherency argument.

Independent claim 15 includes similar limitations and therefore is allowable for at least similar reasons as claim 1.

Dependent claims 9-11, 23-25, and 189-190 ultimately depend from claims 1 and 15 and are therefore allowable for at least similar reasons. Appellant's position with respect to claims 9-11, 23-25, and 189-190 should not be understood as implying that

no other reasons for the patentability of claims 9-11, 23-25, and 189-190 exist. Appellant reserves the right to address these other reasons at a later date if needed.

**B. Rejection under 35 U.S.C. § 103(a) over Duxbury in view of Atmel and further in view of U.S. Patent No. 5,038,268 ("Krause")**

**1. Claims 2-8, 12-14, 16-22, and 26-28**

Dependent claims 2-8, 12-14, 16-22, and 26-28 ultimately depend from claims 1 and 15 and therefore are allowable for at least similar reasons.

Appellant's position with respect to claims 2-8, 12-14, 16-22, and 26-28 should not be understood as implying that no other reasons for the patentability of claims 2-8, 12-14, 16-22, and 26-28 exist. Appellant reserves the right to address these other reasons at a later date if needed.

**CONCLUSION**


Appellant respectfully requests the Board to reverse the Examiner's rejection of the claims on appeal.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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**VIII. CLAIMS APPENDIX**

This is a complete and current listing of the claims.

1. (Previously Presented) A sprinkler system comprising:

a plurality of sprinklers each comprising a sprinkler valve adapted to regulate an amount of fluid delivered by the sprinkler in response to a control signal;

a master unit adapted to transmit digital data; and

a plurality of sprinkler controllers, each one of the plurality of sprinkler controllers associated with a respective one of the plurality of sprinklers and comprising:

a receiver adapted to receive a signal representing the digital data;

a media access controller adapted to obtain the digital data from the signal, frame the digital data, and filter the digital data to select frames of the digital data that are addressed to the one of the plurality of sprinkler controllers; and

a processor adapted to produce the control signal based on the digital data obtained by the media access controller; and

an output circuit adapted to provide the control signal to the sprinklers.

2. (Original) The sprinkler system of claim 1, wherein the digital data comprises data representing at least one of the group comprising:

a desired sprinkler operation schedule;  
meteorological conditions; and



a status of a fluid supply system supplying the fluid to the sprinklers.

3. (Previously Presented) The sprinkler system of claim 2, wherein each of the plurality of sprinkler controllers further comprises:

a timer adapted to provide a time signal representing a time of day;

wherein the processor is adapted to provide the control signal based on the digital data obtained by the media access controller and the time signal.

4. (Original) The sprinkler system of claim 1:

wherein the receiver is further adapted to receive a sensor signal provided by one or more sensors; and

wherein the processor is further adapted to provide the control signal based on the digital data obtained by the media access controller and the sensor signal.

5. (Original) The sprinkler system of claim 4, wherein the sensor signal represents at least one of the group comprising:

a pressure of the fluid,  
a flow rate of the fluid,  
a sunlight intensity,  
an ambient temperature, and  
a relative humidity.

6. (Original) The sprinkler system of claim 4, further comprising:

the one or more sensors.

7. (Previously Presented) The sprinkler system of claim 1, wherein each of the plurality of sprinkler controllers further comprises:

a keypad adapted to provide a keypad control signal in response to operation of the keypad;

wherein the processor is further adapted to provide the control signal based on the digital data obtained by the media access controller and the keypad control signal.

8. (Previously Presented) The sprinkler system of claim 1, wherein each of the plurality of sprinkler controllers further comprises:

a display adapted to display a status of the sprinkler controller.

9. (Original) The sprinkler system of claim 1, wherein the processor and the media access controller are implemented together as a single integrated circuit.

10. (Original) The sprinkler system of claim 1, wherein the receiver is a wireless receiver.

11. (Original) The sprinkler system of claim 10, wherein the receiver complies with a standard selected from the group consisting of:

IEEE 802.11;

IEEE 802.11a;

IEEE 802.11b;

IEEE 802.11g;

IEEE 802.11h;

IEEE 802.11i;

Short Messaging Service (SMS); and

Analog Display Service Interface (ADSI).

12. (Previously Presented) The sprinkler system of claim 1, wherein each of the plurality of sprinkler controllers further comprises:

a memory adapted to store a sprinkler schedule; and  
wherein the processor is further adapted to produce the control signal based on the sprinkler schedule.

13. (Original) The sprinkler system of claim 12:  
wherein the processor is further adapted to produce the control signal based on the sprinkler schedule stored in the memory when the signal representing the digital data is unavailable.

14. (Original) The sprinkler system of claim 13:  
wherein the memory is non-volatile.

15. (Previously Presented) A sprinkler system comprising:

a plurality of sprinkler means each comprising a sprinkler valve means for regulating an amount of fluid delivered by the sprinkler means in response to a control signal;

master unit means for transmitting digital data; and

a plurality of sprinkler controller means, each one of the plurality of sprinkler controller means associated with a respective one of the plurality of sprinkler means and comprising:

receiver means for receiving a signal representing the digital data;

media access controller means for obtaining the digital data from the signal, for framing the digital data, and

for filtering the digital data to select frames of the digital data that are addressed to the one of the plurality of sprinkler controllers; and

processor means for producing the control signal based on the digital data obtained by the media access controller; and

output means for providing the control signal to the sprinklers.

16. (Original) The sprinkler system of claim 15, wherein the digital data comprises data representing at least one of the group comprising:

a desired sprinkler operation schedule;

meteorological conditions; and

a status of a fluid supply system supplying the fluid to the sprinklers.

17. (Previously Presented) The sprinkler system of claim 16, wherein each of the sprinkler controller means further comprises:

timer means for providing a time signal representing a time of day;

wherein the processor means provides the control signal based on the digital data obtained by the media access controller means and the time signal.

18. (Original) The sprinkler system of claim 15:

wherein the receiver means receives a sensor signal provided by one or more sensor means; and

wherein the processor means provides the control signal based on the digital data obtained by the media access controller means and the sensor signal.

19. (Original) The sprinkler system of claim 18, wherein the sensor signal represents at least one of the group comprising:

- a pressure of the fluid,
- a flow rate of the fluid,
- a sunlight intensity,
- an ambient temperature, and
- a relative humidity.

20. (Original) The sprinkler system of claim 18, further comprising:  
the one or more sensor means.

21. (Previously Presented) The sprinkler system of claim 15, wherein each of the sprinkler controller means further comprises:

- keypad means for providing a keypad control signal in response to operation of the keypad means;

- wherein the processor means provides the control signal based on the digital data obtained by the media access controller means and the keypad control signal.

22. (Previously Presented) The sprinkler system of claim 15, wherein each of the sprinkler controller means further comprises:

- display means for displaying a status of the sprinkler controller means.

23. (Original) The sprinkler system of claim 15, wherein the processor and the media access controller are implemented together as a single integrated circuit.

24. (Original) The sprinkler system of claim 15, wherein the receiver means is wireless.

25. (Original) The sprinkler system of claim 24, wherein the receiver means complies with a standard selected from the group consisting of:

IEEE 802.11;  
IEEE 802.11a;  
IEEE 802.11b;  
IEEE 802.11g;  
IEEE 802.11h;  
IEEE 802.11i;  
Short Messaging Service (SMS); and  
Analog Display Service Interface (ADSI).

26. (Previously Presented) The sprinkler system of claim 15, wherein each of the sprinkler controller means further comprises:

memory means for storing a sprinkler schedule; and  
wherein the processor means produces the control signal based on the sprinkler schedule.

27. (Original) The sprinkler system of claim 26:  
wherein the processor means produces the control signal based on the sprinkler schedule stored in the memory means when the signal representing the digital data is unavailable.

28. (Original) The sprinkler system of claim 27:  
wherein the memory means is non-volatile.

29-188. (Cancelled)

189. (Original) The sprinkler system of claim 10, wherein the receiver comprises pager technology.

190. (Original) The sprinkler system of claim 24, wherein the receiver means comprises pager technology.

191-196. (Cancelled)

**IX. EVIDENCE APPENDIX**

None



**X. RELATED PROCEEDINGS APPENDIX**

None

[4677824.1]